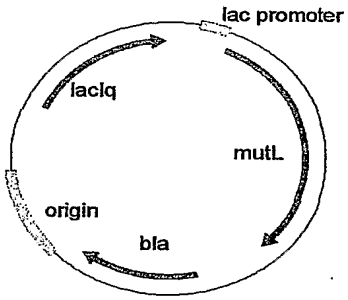

Figure 1

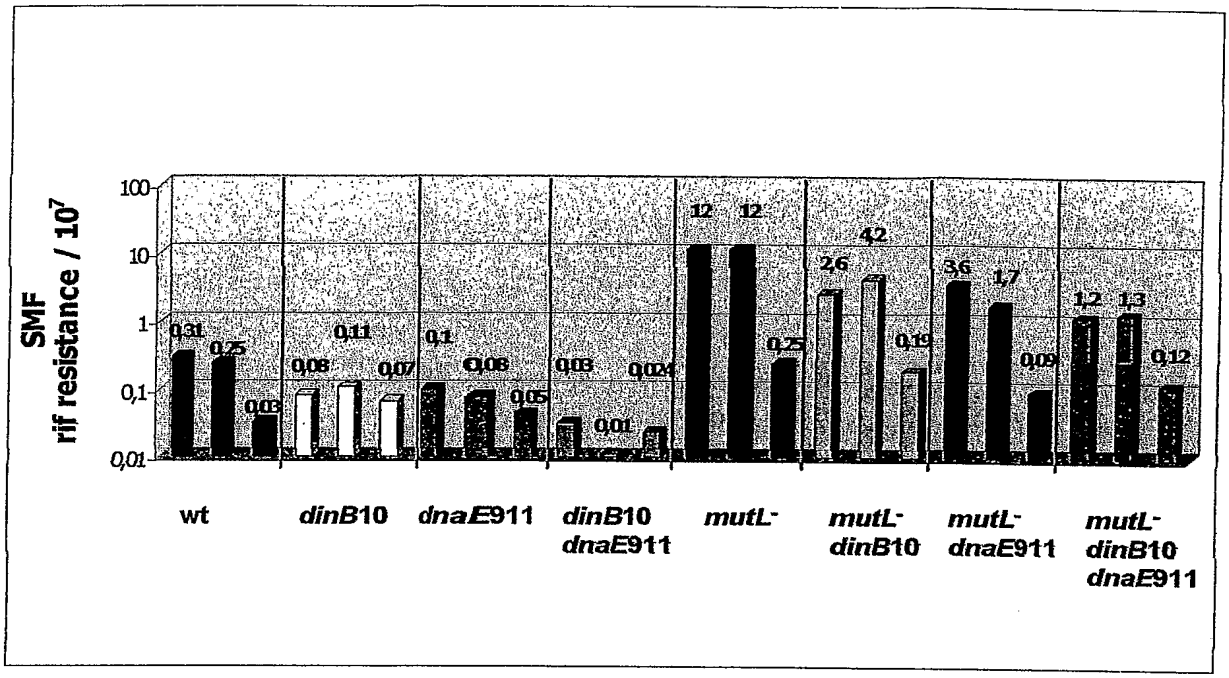
SMF
rif resistance / 10⁷
100
10
1
0,1
0,01
0.31
0.25
0.03
0.08
0.11
0.07
0.1
0.08
0.05
0.03
0.01
0.024
12
12
0.25
2.6
4.2
0.19
3.6
1.7
0.09
1.2
1.3
0.12
wt
dinB10
dnaE911
dinB10 dnaE911
mutL⁻
mutL⁻ dinB10
mutL⁻ dnaE911
mutL⁻ dinB10 dnaE911

Figure 2

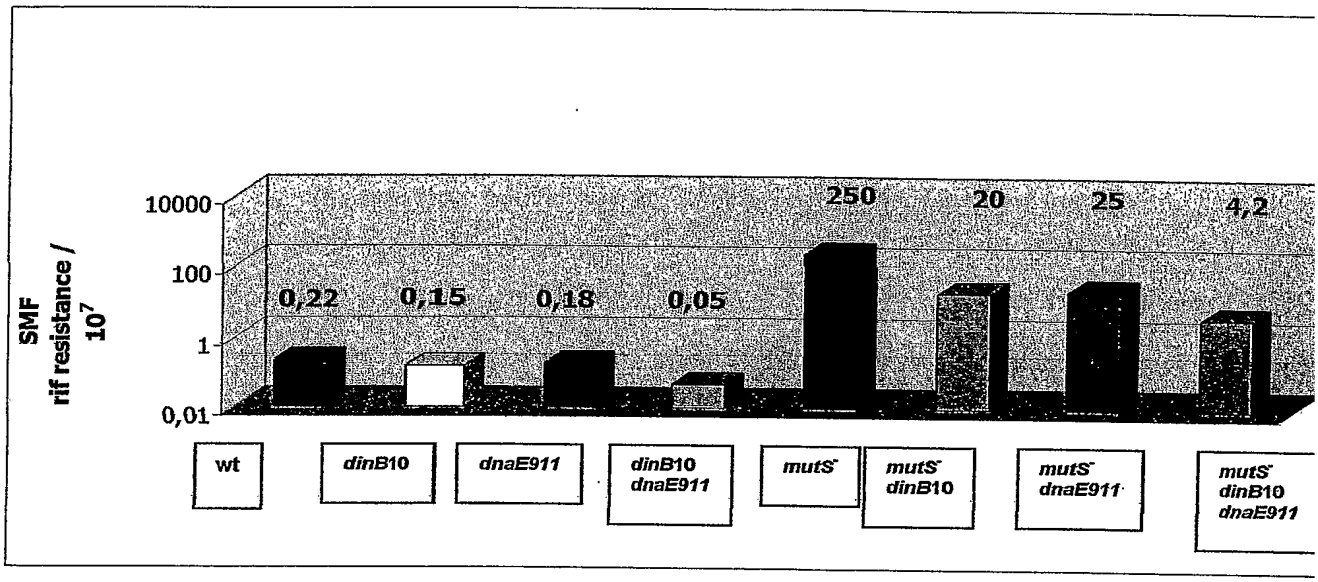
SMF
rif resistance /
10^7
10000
100
1
0,01
0,22
0,15
0,18
0,05
250
20
25
4,2
wt
dinB10
dnaE911
dinB10
dnaE911
mutS⁻
mutS⁻
dinB10
mutS⁻
dnaE911
mutS⁻
dinB10
dnaE911

Figure 3

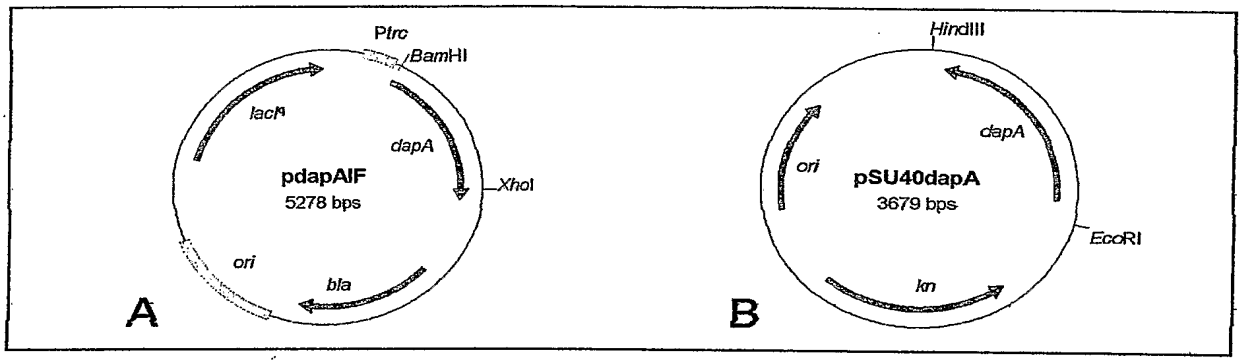
Ptrc
BamHI
lacIq
dapA
pdapAIF
5278 bps
XhoI
ori
bla
A
HindIII
dapA
ori
pSU40dapA
3679 bps
EcoRI
kn
B

Figure 4

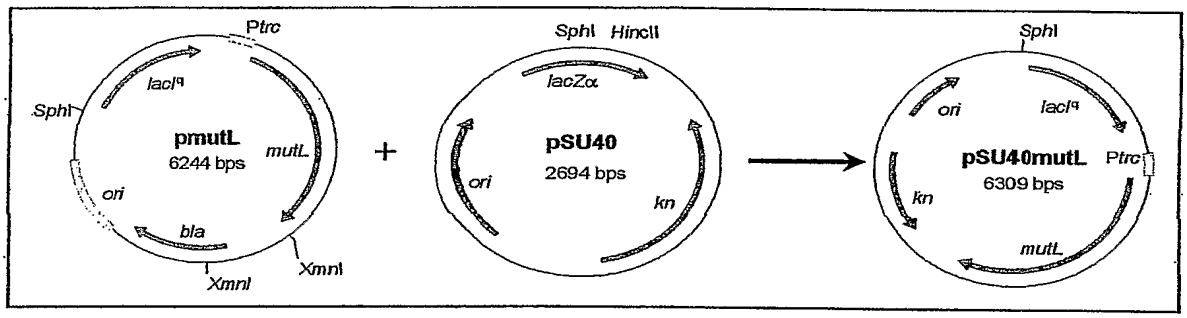
Ptrc
lacI^q
SphI
pmutL
6244 bps
mutL
ori
bla
XmnI
XmnI
+
SphI HincII
lacZα
pSU40
2694 bps
ori
kn
SphI
ori
lacI^q
pSU40mutL
6309 bps
Ptrc
kn
mutL

Figure 5

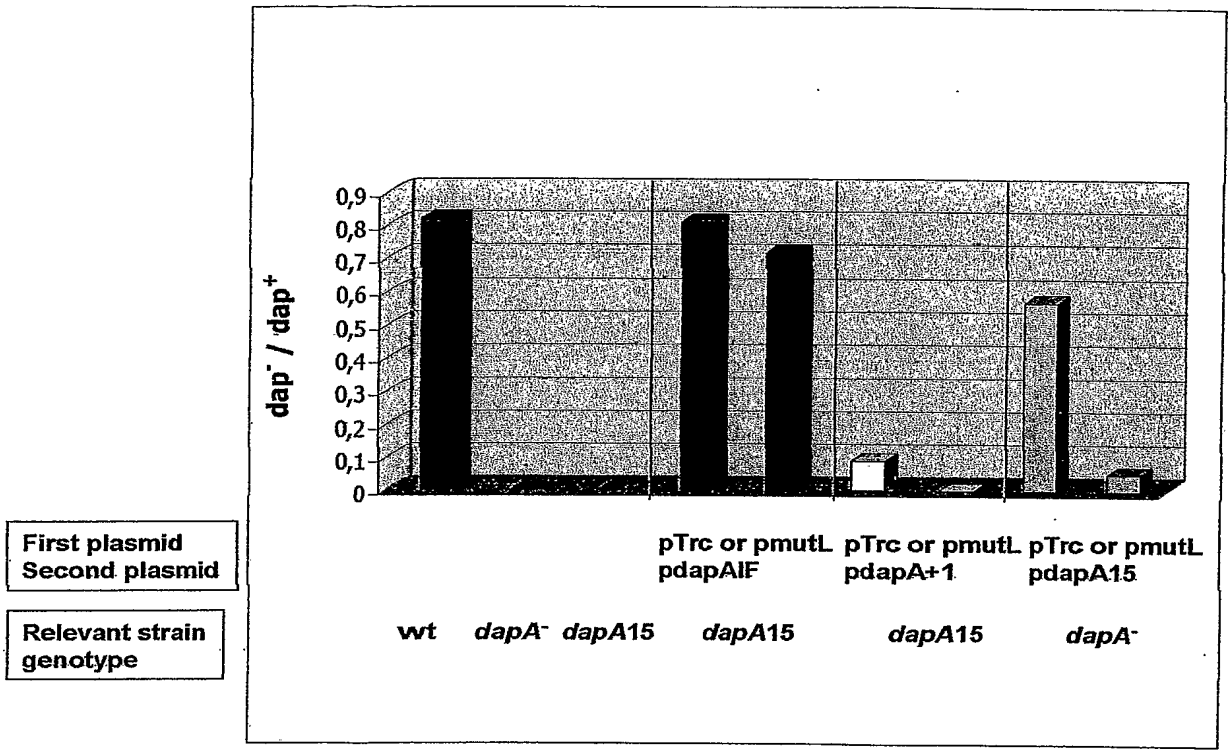
dap⁻ / dap⁺
0,9
0,8
0,7
0,6
0,5
0,4
0,3
0,2
0,1
0
First plasmid
Second plasmid
pTrc or pmutL pdapAIF
pTrc or pmutL pdapA+1
pTrc or pmutL pdapA15
Relevant strain genotype
wt
dapA⁻ dapA15
dapA15
dapA15
dapA⁻

Figure 6

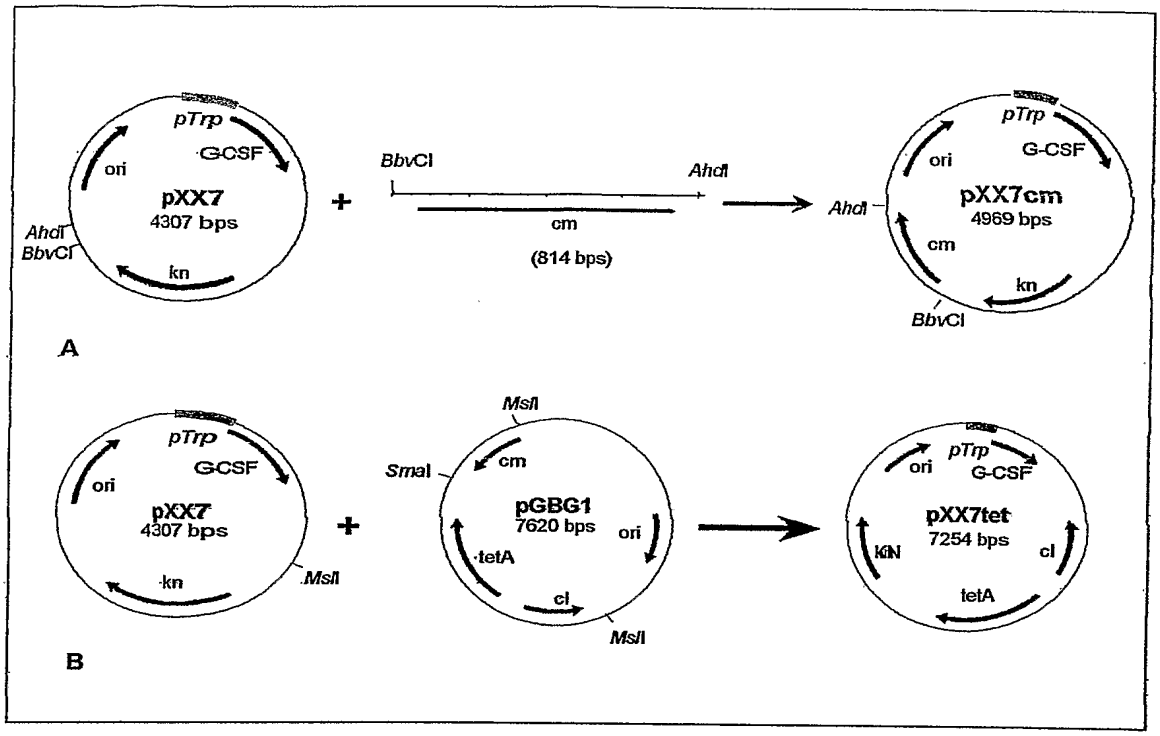
pTrp
G-CSF
ori
pXX7
4307 bps
kn
AhdI
BbvCI
+
BbvCI
AhdI
cm
(814 bps)
AhdI
pTrp
G-CSF
ori
pXX7cm
4969 bps
cm
kn
BbvCI
A
pTrp
G-CSF
ori
pXX7
4307 bps
kn
MsiI
+
MsiI
SmaI
cm
pGBG1
7620 bps
ori
tetA
cI
MsiI
pTrp
G-CSF
ori
pXX7tet
7254 bps
kN
cI
tetA
B

Figure 7

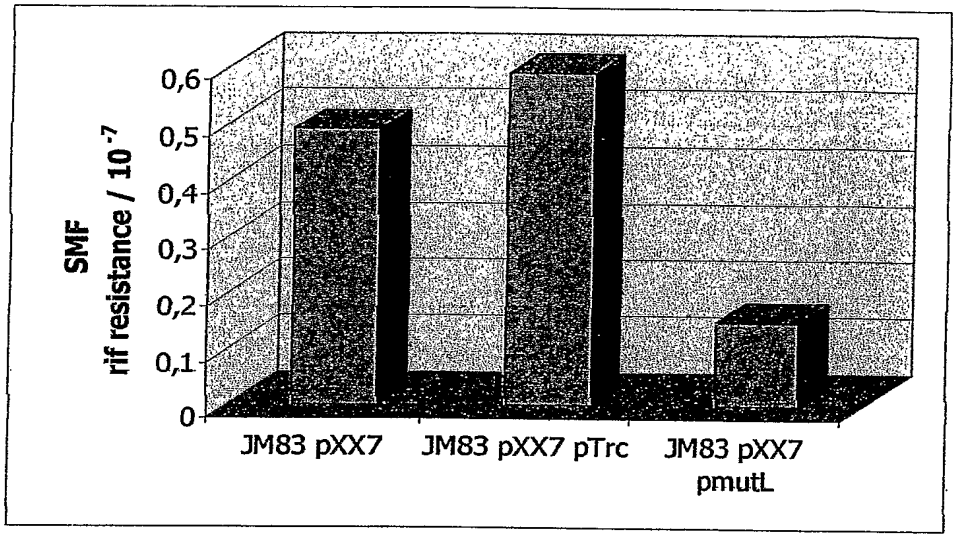
SMF
rif resistance / 10 -7
0,6
0,5
0,4
0,3
0,2
0,1
0
JM83 pXX7
JM83 pXX7 pTrc
JM83 pXX7 pmutL

Figure 8

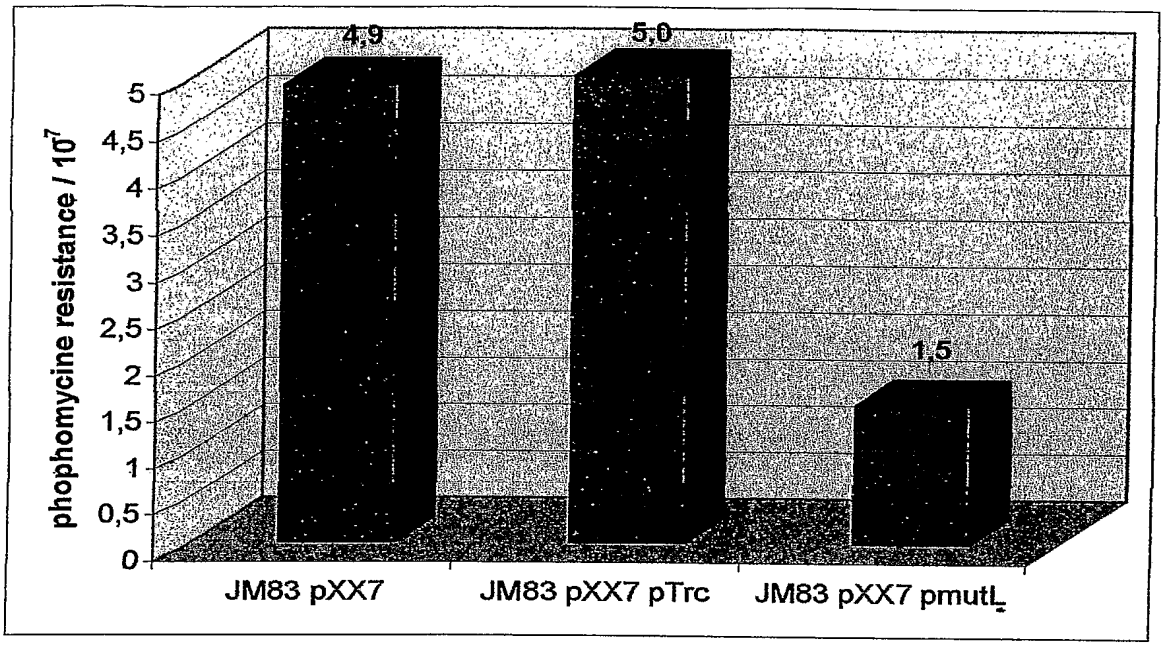
phophomycine resistance / 10^7
5
4,5
4
3,5
3
2,5
2
1,5
1
0,5
0
4,9
5,0
1,5
JM83 pXX7
JM83 pXX7 pTrc
JM83 pXX7 pmutL

Figure 9

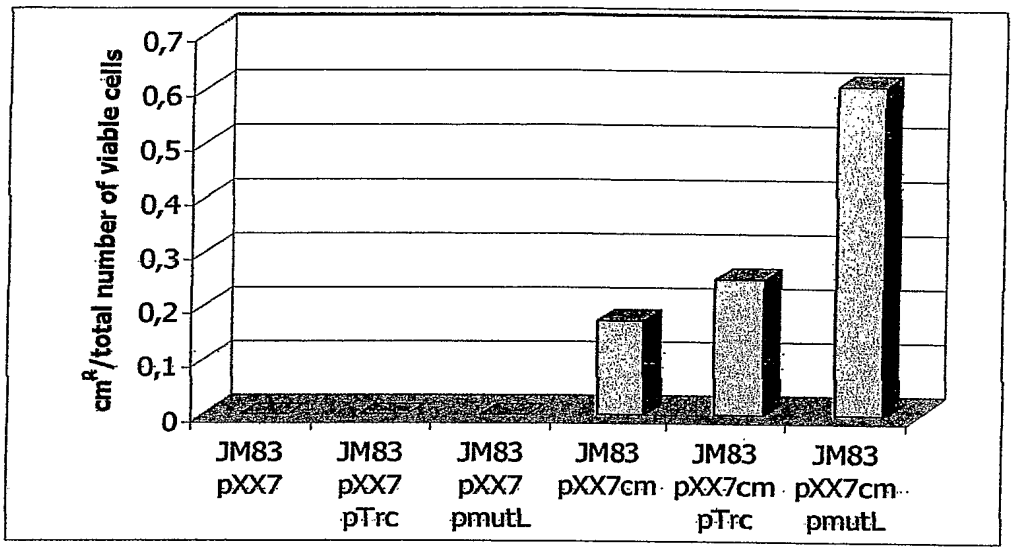
cm^R/total number of viable cells
0,7
0,6
0,5
0,4
0,3
0,2
0,1
0
JM83 pXX7
JM83 pXX7 pTrc
JM83 pXX7 pmutL
JM83 pXX7cm
JM83 pXX7cm pTrc
JM83 pXX7cm pmutL

Figure 10

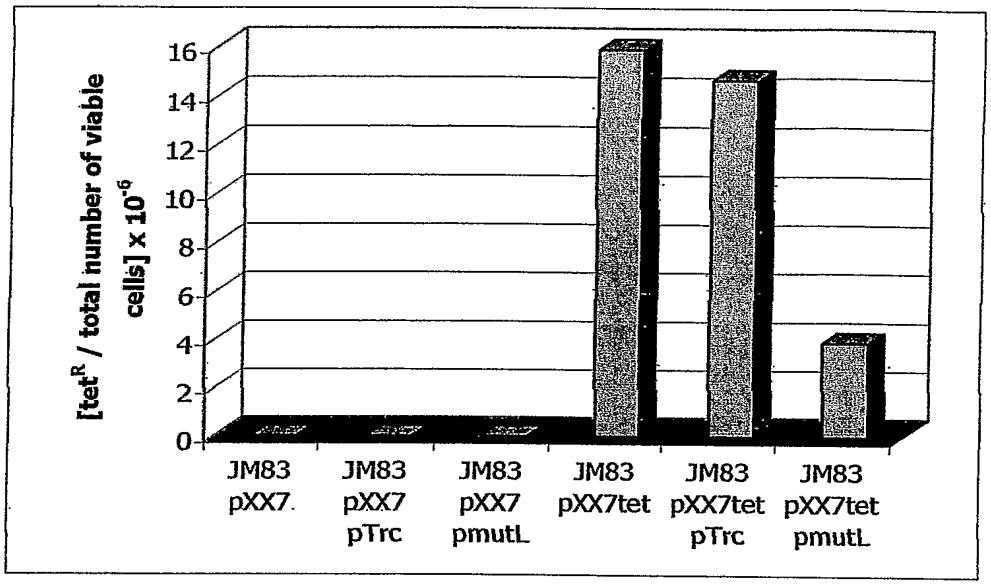
[tet^R / total number of viable cells] x 10^-6
16
14
12
10
8
6
4
2
0
JM83 pXX7.
JM83 pXX7 pTrc
JM83 pXX7 pmutL
JM83 pXX7tet
JM83 pXX7tet pTrc
JM83 pXX7tet pmutL

Figure 11

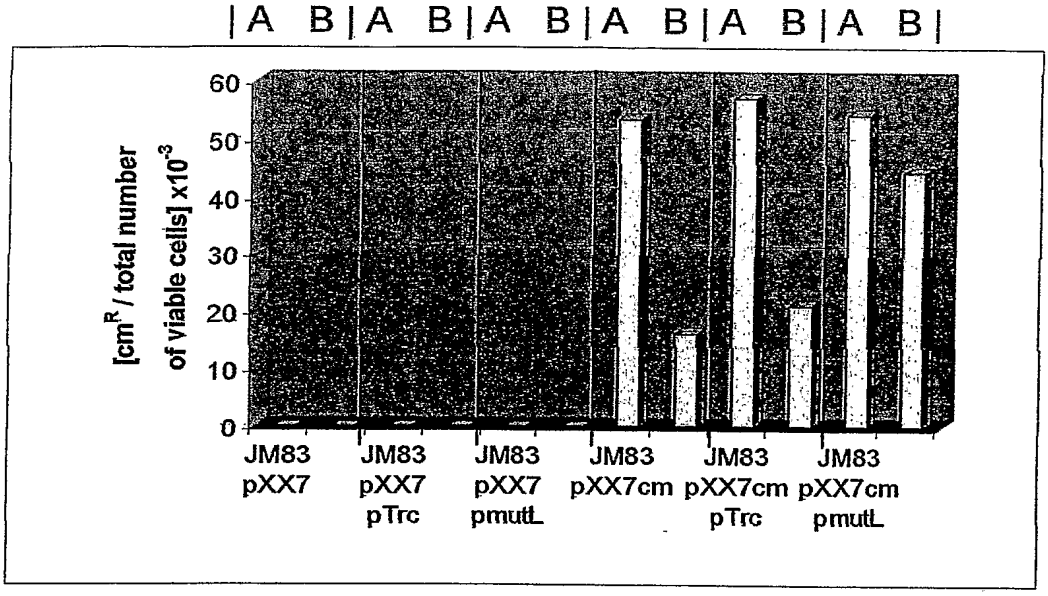
| A B | A B | A B | A B | A B | A B |
[cm^R / total number of viable cells] x10^-3
60
50
40
30
20
10
0
JM83 pXX7
JM83 pXX7 pTrc
JM83 pXX7 pmutL
JM83 pXX7cm
JM83 pXX7cm pTrc
JM83 pXX7cm pmutL

Figure 12

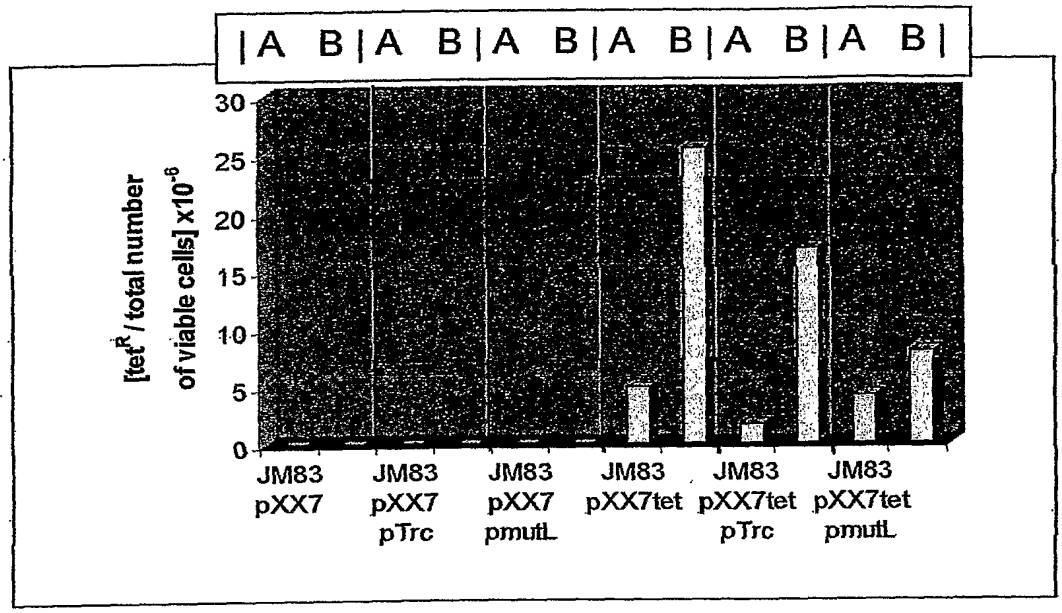
| A B | A B | A B | A B | A B | A B |
[tet^R / total number of viable cells] x10^-6
30
25
20
15
10
5
0
JM83 pXX7
JM83 pXX7 pTrc
JM83 pXX7 pmutL
JM83 pXX7tet
JM83 pXX7tet pTrc
JM83 pXX7tet pmutL

Figure 13